

• Work Order ID 98395

98395

Page 1

March-12-13 1:53:56 PM

Item ID: D2055

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Clamp

Start Date: 3/11/13

Start Qty: 12.00

12

Required Date: 3/19/13

Req'd Qty: 12.00

12

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: M13

Date: 13-03-14

Tooling:

Date:

Run Start

NR1

QC:

Date: _____

SPC (Y/N):

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
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D2055	D	0.00	3.3.28	12	0	DAS 04 3-83
100 *100*	Hardinge CNC LATHE SMALL	0.00				
Doosan	Memo	0.00				
Doosan Lathe	Machine as per Folio FA203 debur all sharp edges as per dwg					

110 *110*	QC2- Inspect parts off machine FAI/FAIB	0.00	3.3.28	12	4	DAS 04 3-83
QC	Memo	0.00				
Quality Control						

120 *120*	QC8- Inspect parts - second check	0.00	13/03/29	12	0	
QC	Memo	0.00				
Quality Control						

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS						
Part No. _____	Rework	Scrap	Use-as-is	Skid-tube	Machining	Crosstube	Water Jet	Engineering		
NCR No. _____	Work Order Update			Thermoforming	Large Fab	Small Fab	Prod. Eng. Coor.	Quality		
					Finishing	Rec/Store/Packaging	Supplier	Other		
					Composite					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear			General							
Bending	Bend	Grain	Ovalized	Pressure/Forced						
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure						
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld						
Crushed/Crimped	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled						
Cuffs	Contamination	Maintenance	Part Moved							
Heat Treat	Countersink	Mislabeled	Positioned Wrong							
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge							
Ripples in Bend	Drill Holes	Offset								
Torque Waves in Extrusion	Drawing	Out of Calibration								
Turning Sequence	Finish	Out of Sequence								
Wave/Twist in Tube	Folio	Outside Dimensions								

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Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan:

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

150

HandFinish

Hand Finishing

Memo

0.00

12 761342

Clean part from makings with acid etch and scotch brite befor sending to get
Anodize

160

160

Outsource4

Outsource process - Anodize

Memo

0.00

ISSUE P/O: 19493
BLACK ANODIZE

CD 13/04/04 12

170

170

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Memo

0.00

4/3/13 12

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube				Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish Folio Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset Out of Calibration Out of Sequence Outside Dimensions							
				Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge							
				Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled							
				<input type="checkbox"/> Other							

Work Order ID 98395

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Item ID: D2055

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Start

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Start Date: 3/11/13

Start Qty: 12.00

12

Cust Item ID:

Required Date: 3/19/13

Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

175

175

QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

A
21

12

180

Identify as per dwg & Stock Location

0.00

6A

12

3/13/13

180

Packaging

Packaging

Memo

0.00

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Quality Control

Memo

0.00

13/5/14

MF
13-5-14

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions							
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge							
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled							
				<input type="checkbox"/> Other							

Picklist Print

March-12-13 1:53:56 PM

Page 1

Work Order ID: 98395

Parent Item: D2055

Parent Item Name: Clamp

Start Date: 3/11/13

Required Date: 3/19/13

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP C02.03.07Now turned in houseNG
JLM VERIFIED BY:EC

IPP REV:D NOW ON DOOSAN 10-02-01

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6R1.000 ROUND BAR 1.00"		Purchased	No			120	f	53.8430	0.1042	1.3162104			

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
MAT012	11.542		
121070	11.542		
MAT013	42.301		
116406	6.703	1.2	
118271	11.4		
121192	9.64		
122521	8.855		
123483	5.703		

3.3.28
DAS
04
8-8

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS								
Part No. _____			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>						
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup													
Other													
Process													
Supplier													
Training													
Unapproved													
FAULT CATEGORY													
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other			

DART AEROSPACE LTD	Work Order:	98395
Description: Clamp	Part Number:	D2055
Inspection Dwg: D2055	Rev: CTD 13.03.14	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

248

04
9-99

Measured by:

measured by:

Audited by:

Added by:

Prototype Approval:

Prototype Approval.

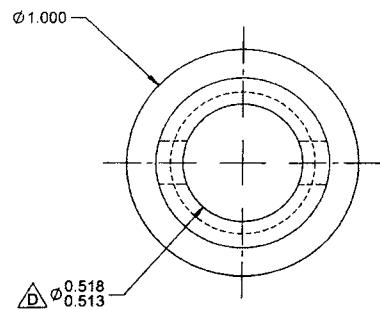
140

N/A

Rev	Date	Change	Revised by	Approved
A	10.02.02	New Issue	KJ	

8 7 6 5 4 3 2 1

D



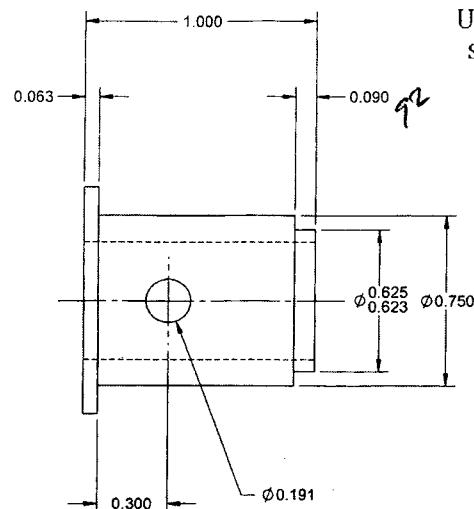
D $\phi 0.518$
D $\phi 0.513$

A

NOTES:

- 1) MATERIAL: ALUMINUM, 6061-T6/T651/T6510/T6511/T62 PER QQ-A-200/8 OR QQ-A-225/8 OR ASTM B211 OR ASTM B221 REF DART SPEC M6061T6R
- 2) FINISH: BLACK ANODIZE PER MIL-A-8625F, TYPE II, CLASS 2 (PREFERRED) OR CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3 (OPTIONAL)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

8 7 6 5 4 3 2 1



D2055 CLAMP

SHOP DRAWING

REV.

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WEIGHT: 0.02 lbs

WORK DATE

NO. 98395 MC

13-03-14



RELEASED
R 2013-02-12
W

D	UPDATE TO CURRENT STANDARDS; BLACK ANODIZE IS NOW THE PREFERRED FINISH. REF PAR12-229. MODIFY HOLE SIZE; ADD POWDER COAT OPTION	SFM	12.12.21
C	ADDED 0.750 O.D. DIMENSION	CP	98.12.10
B	0.191 DIA WAS 0.187 DIA (STR A1100)	CP	98.10.15
A	NEW ISSUE		92.03.13
REV.	DESCRIPTION		BY DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SFM		
CHECKED	✓	DRAWING NO.	REV. D
MFG. APPR.	✓	D2055	SHEET 1 OF 1
APPROVED	✓	TITLE	SCALE
DE APPR.	✓	CLAMP	NTS
DATE	12.12.21	COPYRIGHT © 1992 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

D

D

C

C

B

B

A

A

1



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62347

Date: 30-Apr-13

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
1 lot	Part: ASST 12 PCS D2055 BLACK ANODIZE MIL-A-8625 TYPE II CLASS 2 12 PCS 645.3012 8 PCS 646.9710 7 PCS 647.1610 2 PCS 647.9312 10 PCS 647.9610 9 PCS 647.9612 7 PCS 647.9613 8 PCS 647.9313 HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20130248
	Rev: PO: 19493 Line: Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: <u>30/04/13</u> CERTIFIED SIGNATURE: <u></u> RECEIVER SIGNATURE: <u></u>